

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P311193

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CP187-W2A-U-3000K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P311193  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-30HE-UNV-L82765-S-CP187-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 3000K TUNABLE CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: 

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

**Summary**

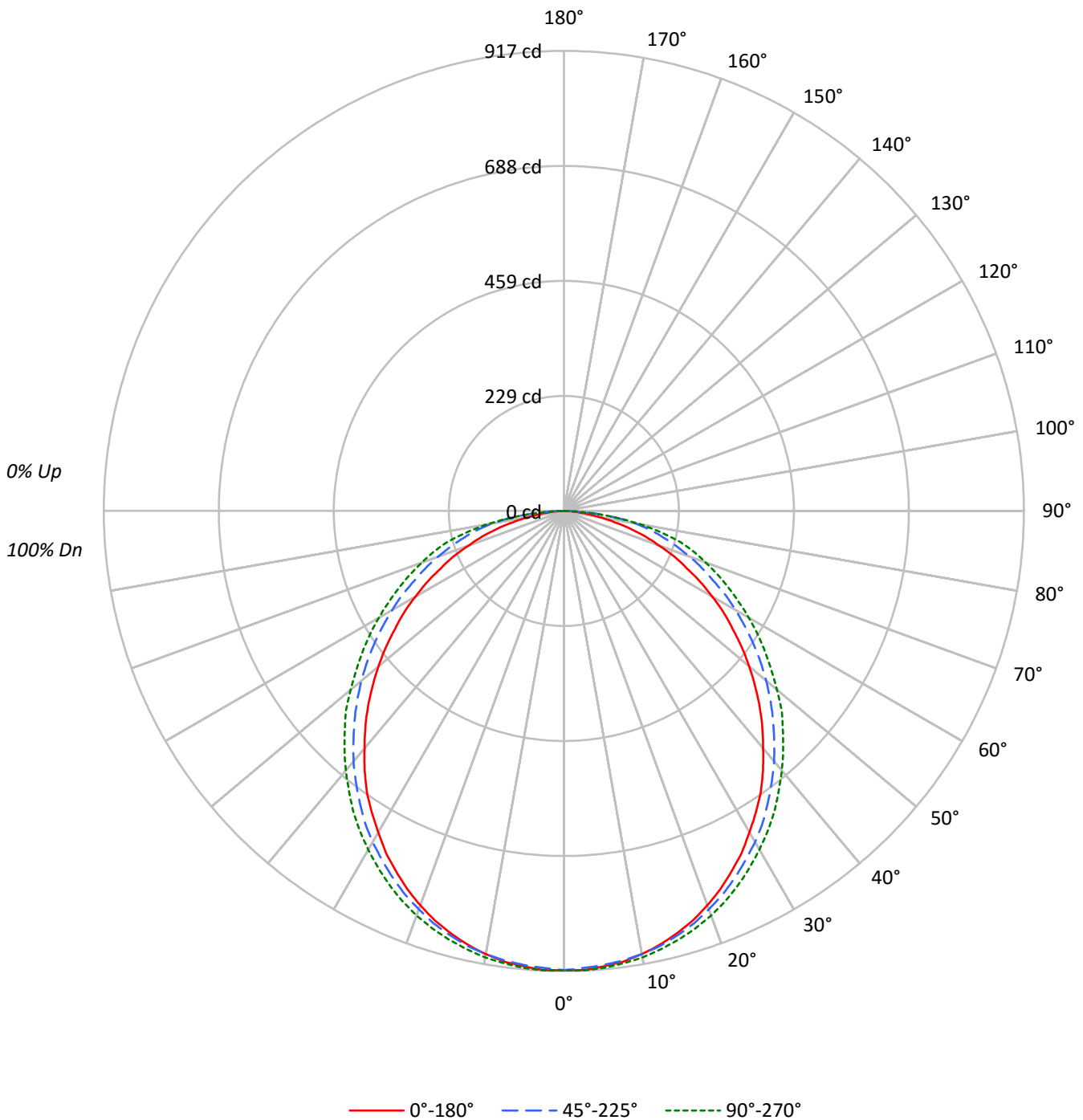
Lumens per Lamp: N/A  
Luminaire Lumens: 2605.0 lumens  
Efficiency: N/A  
Efficacy: 124.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1231	1231	1231
5°	1230	1227	1235
10°	1225	1225	1235
15°	1214	1219	1232
20°	1198	1210	1229
25°	1176	1198	1221
30°	1149	1184	1211
35°	1124	1165	1202
40°	1086	1145	1187
45°	1050	1123	1175
50°	1010	1102	1160
55°	965	1081	1149
60°	920	1064	1147
65°	862	1046	1154
70°	797	1052	1185
75°	714	1071	1252
80°	577	1135	1224
85°	434	996	971



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.6	3.3
10°-20°	247.6	9.5
20°-30°	372.1	14.3
30°-40°	443.3	17.0
40°-50°	453.7	17.4
50°-60°	408.4	15.7
60°-70°	320.8	12.3
70°-80°	208.2	8.0
80°-90°	64.4	2.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	706.3	27.1
0°-40°	1149.6	44.1
0°-60°	2011.7	77.2
0°-90°	2605.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2605.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	915	915	915	915	915	
5°	911	913	908	914	914	87
15°	871	874	875	883	884	246
25°	792	798	807	820	822	365
35°	684	693	709	726	732	427
45°	552	565	590	612	617	426
55°	411	429	461	485	490	369
65°	271	291	328	356	362	269
75°	137	164	206	234	241	145
85°	28	52	64	63	63	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	915.2	915.2	915.2	915.2	915.2
2.5°	916.0	916.0	911.8	916.0	916.8
5°	911.0	912.7	908.5	913.5	914.3
7.5°	906.1	906.1	903.6	908.5	909.4
10°	896.9	897.8	896.9	902.7	903.6
12.5°	885.4	887.0	887.8	893.6	894.5
15°	871.3	873.8	875.4	882.9	884.5
17.5°	855.6	858.1	862.2	870.5	872.1
20°	836.5	839.9	844.8	855.6	858.1
22.5°	815.9	819.2	827.4	837.4	841.5
25°	791.9	798.5	806.8	820.0	822.5
27.5°	767.9	773.7	784.4	798.5	801.8
30°	739.7	748.8	762.1	776.1	779.5
32.5°	712.4	721.5	737.3	752.1	756.3
35°	684.3	692.6	709.1	726.5	731.5
37.5°	652.0	662.8	681.0	698.4	703.3
40°	618.1	631.3	652.0	670.2	676.0
42.5°	585.8	599.9	620.6	640.4	647.1
45°	551.9	565.1	590.0	612.3	617.3
47.5°	517.2	532.0	558.5	580.9	589.1
50°	482.4	498.1	526.3	549.4	554.4
52.5°	447.6	464.2	494.0	518.8	521.3
55°	411.2	429.4	460.9	484.9	489.8
57.5°	378.1	393.9	427.8	452.6	458.4
60°	341.7	359.1	395.5	418.7	426.1
62.5°	307.0	325.2	363.2	386.4	393.0
65°	270.6	291.3	328.5	355.8	362.4
67.5°	239.1	259.0	298.7	325.2	331.8
70°	202.7	225.1	267.3	294.6	301.2
72.5°	171.3	194.4	236.6	263.1	273.1
75°	137.4	163.8	206.0	234.2	240.8
77.5°	104.3	134.9	177.9	199.4	199.4
80°	74.5	106.7	146.5	156.4	158.0
82.5°	48.8	80.3	108.4	107.6	107.6
85°	28.1	52.1	64.5	62.9	62.9
87.5°	10.8	21.5	23.2	23.2	22.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)